

DETAILED ACTION

Claim Objections

1. Claims 6, 10, 13 are objected to because of the following informalities:
 - (a). Claim 6 line 2: "and Y represents O or S, and a silanol group..." should be amended to -- and Y represent O or S, and contains a silanol group --.
 - (b). Claim 10 line 2: "the cured film having surface resistivity of $1 \times 10^{12} \Omega/\text{cm}$ or less" should be amended as " Ω/cm " renders the claim incomprehensible. For the purposes of the rejections below, examiner has interpreted the statement to indicate the *specific* surface resistivity.
 - (c). Claim 13 line 2: "wherein the thickness of the layer of the cured film is 0.1-20 μm " should be amended to -- wherein the thickness of the layer of the cured film is 0.1-20 μm --.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi (WO 01/81466 A1, hereinafter '466) in view of Izawa (EP 1 154 000 A1, hereinafter '000).

6. Regarding claim 1, '466 teaches a curable liquid composition comprising: (A) particles including an oxide of at least one element selected from the group including indium, antimony, zinc, and tin as a major component (pp. 4, ln 7-11), (B) a compound having at least two polymerizable unsaturated groups in the molecule (pp. 15, ln. 18-24), the components (A) and (B) being uniformly dispersed in the composition (pp. 7, 18-18). Note that in the invention of '466 the oxide particles (A) are bonded to a polymerizable group which is incorporated into (B) (pp. 13, ln. 1-5).

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7. '466 does not teach (C) a solvent in which solubility of the component (B) is less than 10 wt%, and (D) a solvent in which solubility of the component (B) is 10 wt% or more. In particular, '466 does teach solvents, but does not recognize the solubility parameters.

8. In the same field of endeavor of antistatic films, '000 teaches (C) a solvent in which solubility of the solid component is less than 10 wt% (difficulty dispersible high-boiling point solvent; para. [0030]), and (D) a solvent in which solubility of the solid component is 10 wt% or more (easily dispersible low-boiling point solvent; para. [0030]). The solvent system of '000 reads on the solvent system of the instant invention. The use of a solvent system with disparate affinities for the solid component of composition (as in '000) "results in a superior conductivity and transparency, in addition superior paint dispersion stability and easy coating properties" (para. [0030]). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate "two or more types of solvents" (para. [0030]), as taught by '000, into the curable liquid composition, as taught by '466, for aforementioned benefits.

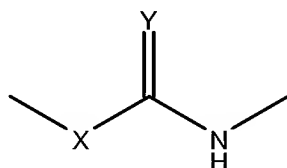
9. Regarding claim 2, '466 teaches the composition of claim 1, further comprising (E) a photoinitiator (pp. 28, ln. 9-19).

10. Regarding claim 3, '466 teaches wherein the component (A) is particles including either antimony-doped tin oxide (pp. 6, ln. 23), or tin-doped indium oxide as a component (pp. 6, ln. 23).

11. Regarding claim 4, '466 teaches wherein the component (A) is surface treated by a using a surface treatment agent (pp. 10, ln. 3-5).

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12. Regarding claim 5, '466 teaches wherein the surface treatment agent is a compound including at least two polymerizable unsaturated groups, a group shown by the following formula (pp. 9, formula 1):



wherein X represents NH, O (oxygen atom), or S (sulfur atom), and Y represents O or S, and a silanol group or a group which forms a silanol group by hydrolysis (pp. 8, ln. 25-33). '466 teaches the above formula as serving a dual role of having a polymerizable monomer and being a surface treatment for the oxide particles (pp. 13, ln. 1-5).

13. Regarding claim 6, '466 teaches wherein the polymerizable group shown by the above formula is at least one of a group including -O-C(=O)-NH-, -O-C(=S)-NH-, and -S-C(=O)-NH- (pp. 9, ln. 15-16), which read on the instant claim.

14. Regarding claim 7, '000 teaches wherein the component (C) is water (para. [0022]), the content of water in the total solvent being 5-40 wt% (para. [0030]), which overlaps the range of the instant claim. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the solvent proportion, as taught by '000, to obtain a curable liquid composition with "superior paint dispersion stability and easy coating properties" (para. [0030]).

15. Regarding claim 8, '000 teaches wherein the component (C) is an organic solvent (para. [0025]), the content of the organic solvent in the total solvent in the composition being 60-95 wt% (para. [0030]), which overlaps the range of the instant claim. It would have been obvious to one of ordinary skill in the art at the time of the

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invention to use the solvent proportion, as taught by '000, to obtain a curable liquid composition with "superior paint dispersion stability and easy coating properties" (para. [0030]).

16. Regarding claim 9, '466 teaches wherein the solid content of the composition is 5-90 wt% (pp. 12, ln. 27-35), which overlaps the range of the instant claim.

17. Regarding claim 10, '466 teaches a cured film obtained by curing the curable liquid composition, the cured film having a surface resistivity of $1 \times 10^{12} \Omega/\square$ or less (pp. 30, ln. 6-8).

18. Regarding claim 11, '466 teaches a process for producing a cured film, comprising a step of curing the curable liquid composition by applying radiation to the composition (p. 28, ln. 8-15; pp. 30, ln. 32-33; pp. 31 ln. 1-15).

19. Regarding claim 12, '466 teaches an antistatic laminate comprising a layer of cured film obtained by curing the curable liquid composition (pp. 31, ln. 1-15).

20. Regarding claim 13, '466 teaches wherein the thickness of the cured film is 0.1-200 μm (pp. 31, ln. 10-11), which overlaps the range of the instant claim.

Double Patenting

21. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

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1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

22. Claims 1-6, 10-12 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4-6, 14, 18-19 of U.S. Patent No. 7,112,253 (hereinafter '253) in view of '000. '253 represents the patent resulting from the national stage application of '466; thus the reasoning of the 35 USC § 103 rejections above is incorporated here by reference.

23. Applicant's attention is drawn to MPEP 804 where it is disclosed that "the specification can always be used as a dictionary to learn the meaning of a term in a patent claim." *In re Boylan*, 392 F.2d 1017, 157 USPQ 370 (CCPA 1968). Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent.

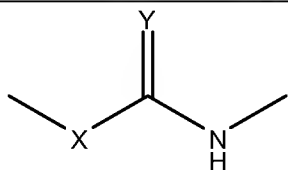
(underlining added by examiner for emphasis) *In re Vogel*, 422 F.2d 438, 164 USPQ 619, 622 (CCPA 1970).

24. Consistent with the above underlined portion of the MPEP citation, attention is drawn to claim 2 of the instant invention. Claim 13 of '253 refers to component (A3) as a

radical generating group. The disclosure of '253 indicates that (A3) represents "organic groups [that] generate radicals upon irradiation" e.g. a photoinitiator (col. 9, ln. 30-32).

Application # 10/552510	US Patent # 7,122,253
<p>1. A curable liquid composition comprising:</p> <p>(A) <u>particles including an oxide of at least one element selected from the group consisting of indium, antimony, zinc, and tin as a major component,</u></p> <p>(B) <u>a compound having at least two polymerizable unsaturated groups in the molecule,</u></p> <p>(C) a solvent in which solubility of the component (B) is less than 10 wt%, and</p> <p>(D) a solvent in which solubility of the component (B) is 10 wt% or more, the components (A) and (B) being uniformly dispersed or dissolved in the composition.</p> <p>2. The curable liquid composition according to claim 1, further comprising</p> <p>(E) <u>a photoinitiator.</u></p>	<p>1. A curable resin composition comprising</p> <p>(A) reactive particles prepared by bonding (A1) at least one of oxide particles of an element selected from the group consisting of silicon, aluminum, zirconium, titanium, zinc, germanium, indium, tin, antimony, ruthenium, rhenium, silver, nickel, copper and cerium, and (A2) an organic compound which comprises a polymerizable unsaturated group, (B) a compound having two or more polymerizable unsaturated groups in the molecule, (C) a terminal reactive polydimethylsiloxane compound having at least one polymerizable unsaturated group and a urethane bond in the molecule, other than organic compound (A2).</p>

<p>3. The curable liquid composition according to claim 1, <u>wherein the component (A) is particles including either antimony-doped tin oxide (ATO) or tin-doped indium oxide (ITO) as a major component.</u></p> <p>4. The curable liquid composition according to claim 1, <u>wherein the component (A) is oxide particles surface-treated by using a surface treatment agent.</u></p> <p>5. The curable liquid composition according to claim 4, <u>wherein the surface treatment agent is a compound including at least two polymerizable unsaturated groups, a group shown by the following formula (1)</u></p>	<p>4. The curable resin composition according to claim 1, wherein the composition contains oxide particles used as the conductive particles, that are chosen from the group consisting of tin-doped indium oxide (ITO), antimony- doped tin oxide (ATO), fluorine-doped tin oxide (FTO), phosphorus-doped tin oxide (PTO), zinc antimonate, indium-doped zinc oxide, ruthenium oxide, rhenium oxide, silver oxide, nickel oxide, and copper.</p> <p>5. The curable resin composition according to claim 1, wherein the organic compound (A2) comprises a polymerizable unsaturated group in the molecule, and the group [-X-C(=Y)-NH-] shown by the formula</p>
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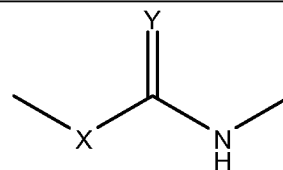


wherein X represents NH, O (oxygen atom), or S (sulfur atom), and Y represents O or S, and a silanol group or a group which forms a silanol group by hydrolysis.

6. The curable liquid composition according to claim 5, wherein the group shown by the formula (1) is at least one group selected from the group consisting of -O-C(=O)-NH-, -O-C(=S)-NH-, and -S-C(=O)-NH-.

10. A cured film obtained by curing the curable liquid composition according to any of claims 1 to 8 claim 1, the cured film having surface resistivity of $1 \times 10^{12} \Omega/\square$ or less.

11. A process for producing a cured film,



wherein X represents NH, O (oxygen atom), or S (sulfur atom), and Y represents O or S.

6. The curable resin composition according to claim 1, **wherein the organic compound (A2) contains a silanol group or a compound which forms a silanol group by hydrolysis.**

13. **A curable resin composition comprising (A) reactive particles prepared by bonding (A1) at least one of oxide particles of an element selected from the group consisting of silicon, aluminum, zirconium, titanium, zinc, germanium, indium, tin, antimony, ruthenium, rhenium, silver, nickel, copper and cerium, (A2) an organic compound**

<p><u>comprising a step of curing the curable liquid composition according to claim 1 by applying radiation to the composition.</u></p> <p>12. <u>An antistatic laminate comprising a layer of a cured film obtained by curing the curable liquid composition according to claim 1.</u></p>	<p>which comprises a polymerizable unsaturated group and (A3) an organic compound that contains silicon and a radical polymerization initiation group in the same molecule; (B) a compound having two or more polymerizable unsaturated groups in the molecule. (C) a terminal reactive polysiloxane compound having at least one polymerizable group in the molecule.</p> <p>14. A process comprising coating the curable resin composition as defined in claim 1 on a substrate.</p> <p>18. A curable resin composition comprising (A) reactive particles prepared by bonding (A1) at least one of oxide particles of an element selected from the group consisting of silicon, aluminum, zirconium, titanium, zinc, germanium, indium, tin, antimony,</p>
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	<p>ruthenium, rhenium, silver, nickel, copper and cerium comprising silicon oxide on the surface, and (A2) an organic compound which comprises a polymerizable unsaturated group, (B) a compound having two or more polymerizable unsaturated groups in the molecule, and (C) a terminal reactive polydimethylsiloxane compound having at least one polymerizable unsaturated group and a urethane bond in the molecule, other than organic compound (A2), wherein the resin composition has a volume resistivity of $10^{12} \Omega\cdot\text{cm}$ or less.</p> <p>19. The curable resin composition according to claim 23, wherein the volume resistivity is $10^8 \Omega\cdot\text{cm}$ or less.</p>
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Conclusion

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY H. SHEH whose telephone number is

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(571)270-7746. The examiner can normally be reached on Monday to Thursday, 9:30-3:30.

26. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on (571)272-1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

27. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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***/Angela Ortiz/
Supervisory Patent Examiner, Art Unit 4151***